

Figure 2-1. Intertidal and Nearshore benthos sampling locations.

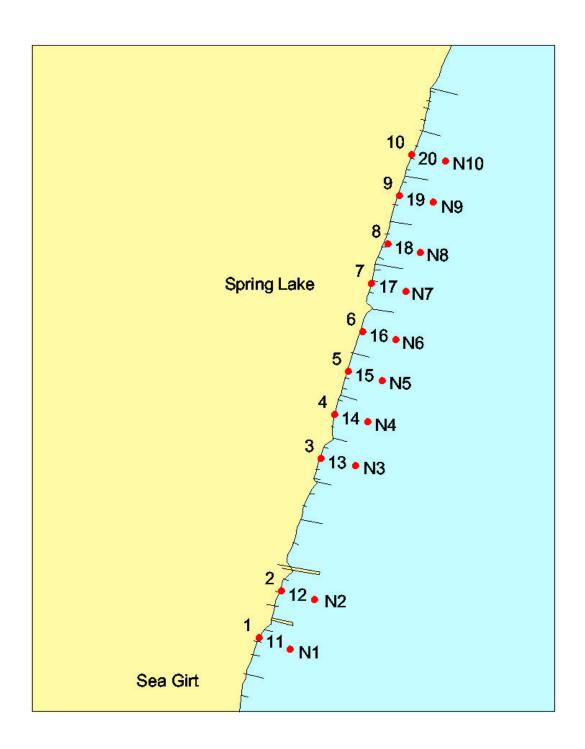


Figure 2-2. Intertidal and Nearshore benthos sampling locations in the South Area.



Figure 2-3. Intertidal and Nearshore benthos sampling locations in the Middle Area.

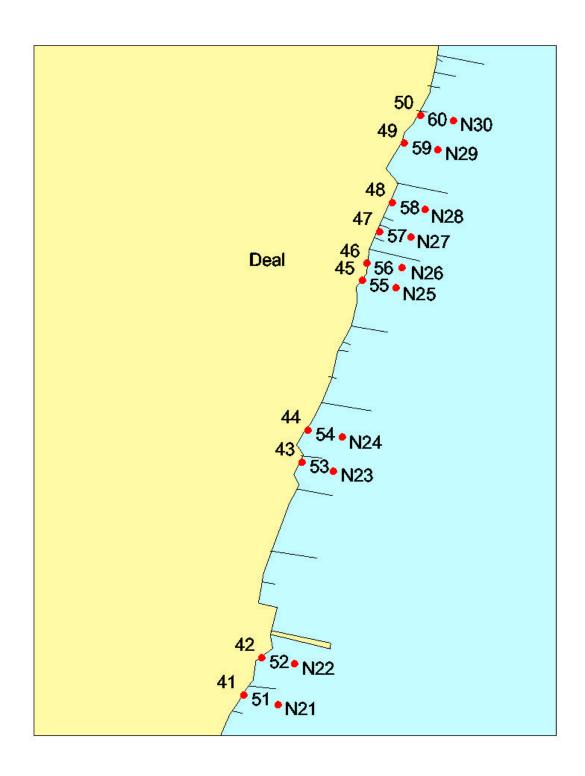
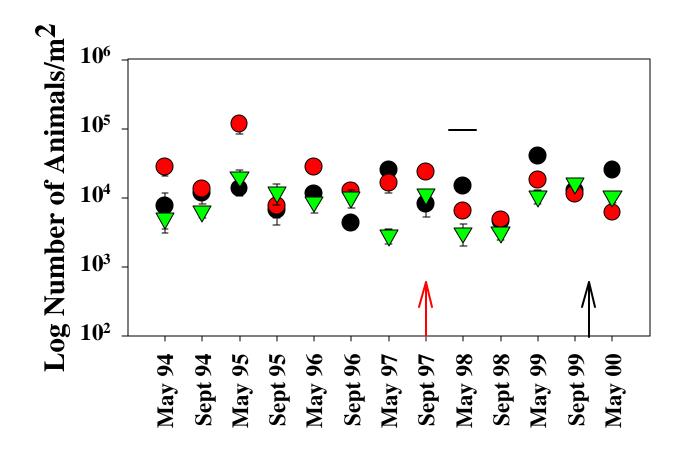
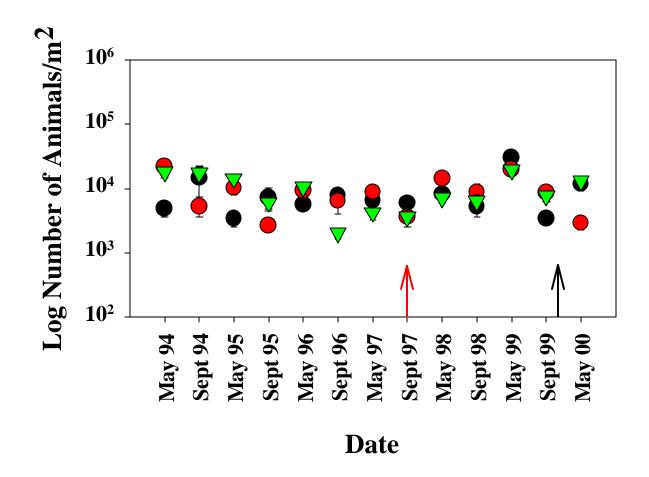


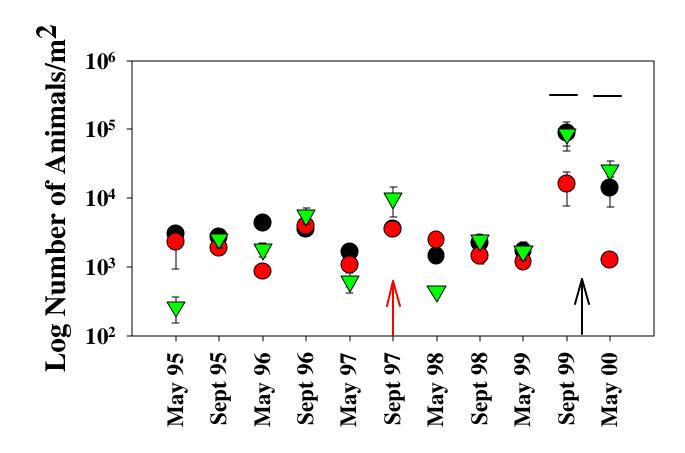
Figure 2-4. Intertidal and Nearshore benthos sampling locations in the North Area.



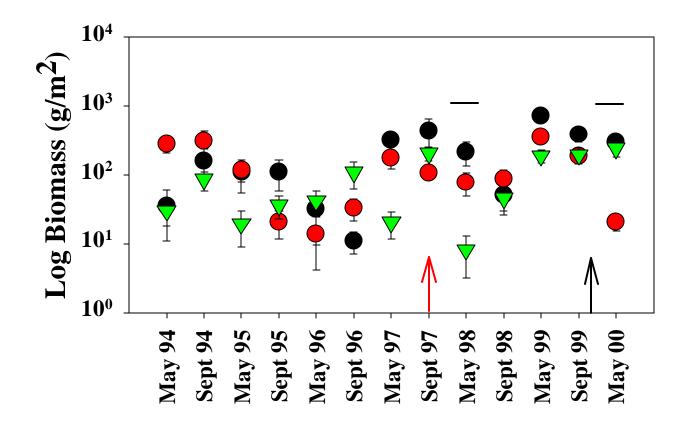
**Figure 2-5. Mean Low Water Abundance (No. Animals/m<sup>2</sup>+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.



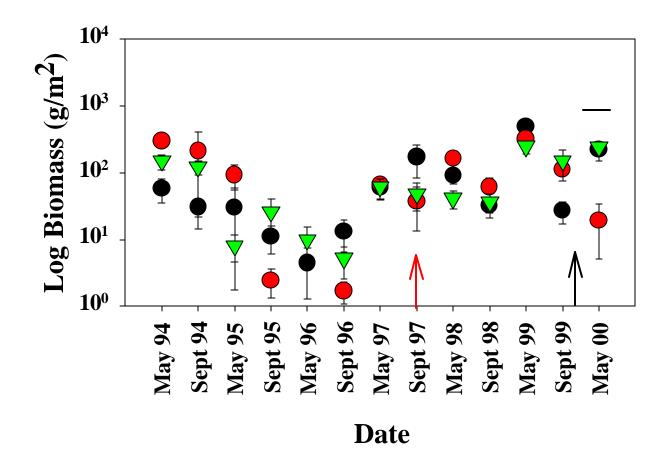
**Figure 2-6. Mean Low Water –1m Abundance (No. Animals/m²+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.



**Figure 2-7. Nearshore Abundance (No. Animals/m<sup>2</sup>+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.



**Figure 2-8. Mean Low Water Biomass (Grams/m<sup>2</sup>+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.



**Figure 2-9. Mean Low Water –1m Biomass (Grams/m<sup>2</sup>+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.

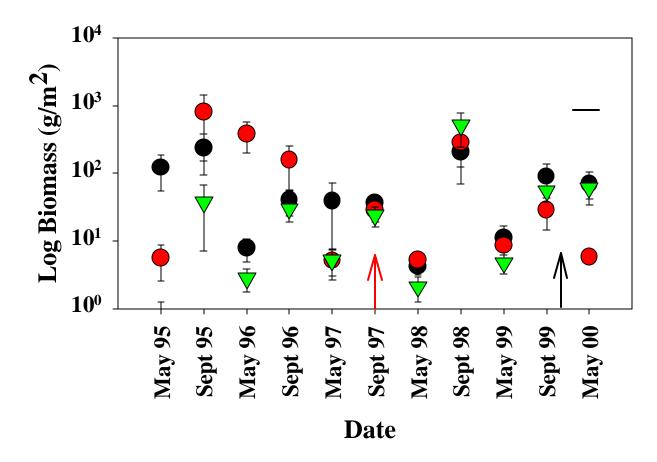
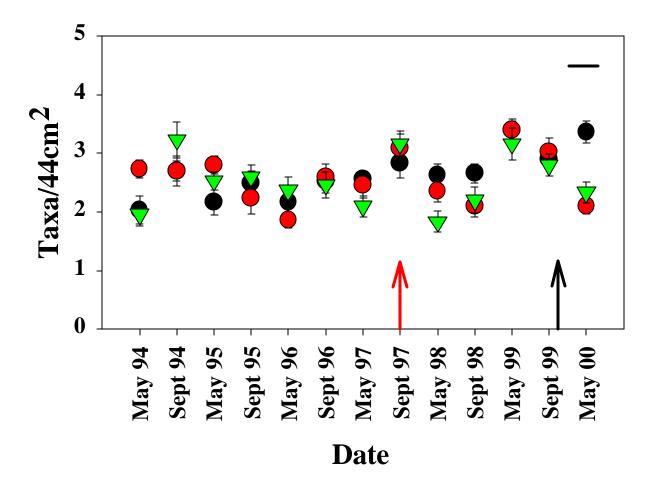


Figure 2-10. Nearshore Biomass (Grams/ $m^2\pm$ SE) by Date. Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.



**Figure 2-11. Mean Low Water Taxa Richness (Taxa/44cm<sup>2</sup>+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.

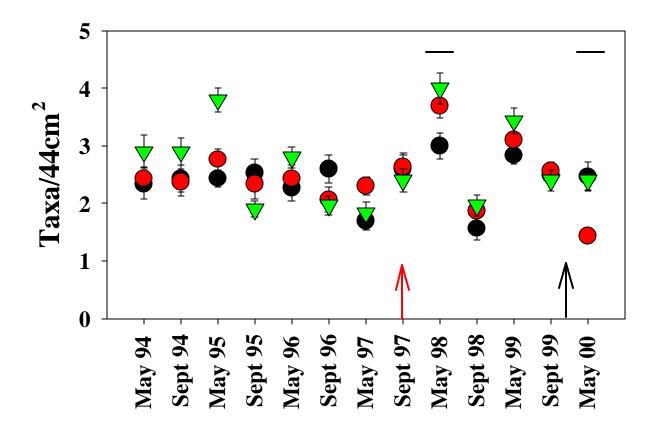
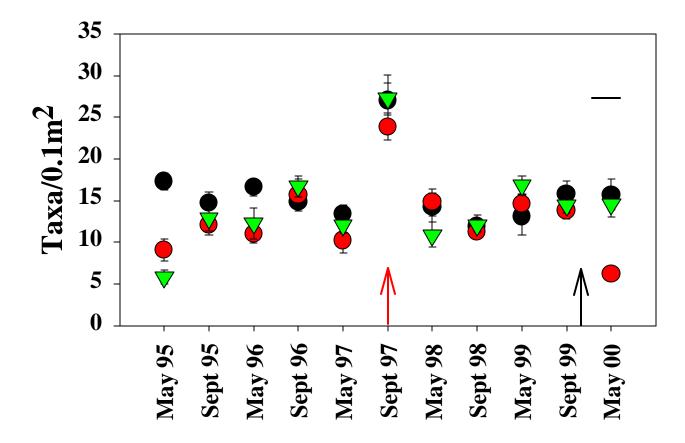


Figure 2-12. Mean Low Water –1m Taxa Richness (Taxa/44cm<sup>2</sup>+SE) by Date. Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.



**Figure 2-13. Nearshore Taxa Richness (Taxa/0.1m<sup>2</sup>+SE) by Date.** Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Red arrow indicates South Area nourished; Black arrow indicates Middle Area nourished; Bar indicates a significant (p<0.0125) linear contrast between means.

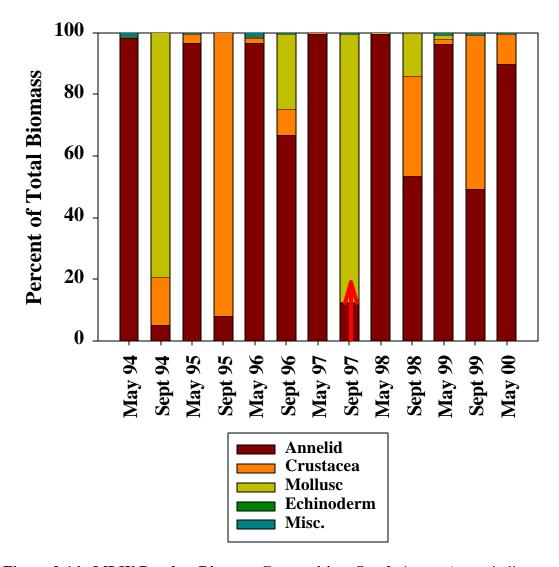


Figure 2-14. MLW Benthos Biomass Composition- South Area. Arrow indicates when nourishment occurred.

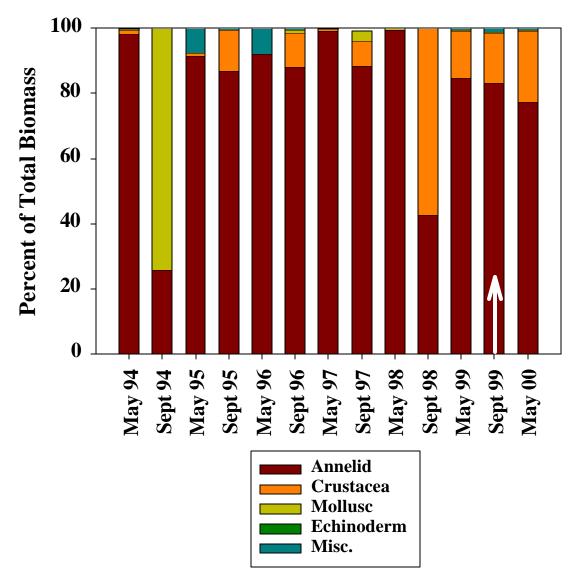


Figure 2-15. MLW Benthos Biomass Composition Middle Area. Arrow indicates when nourishment occurred.

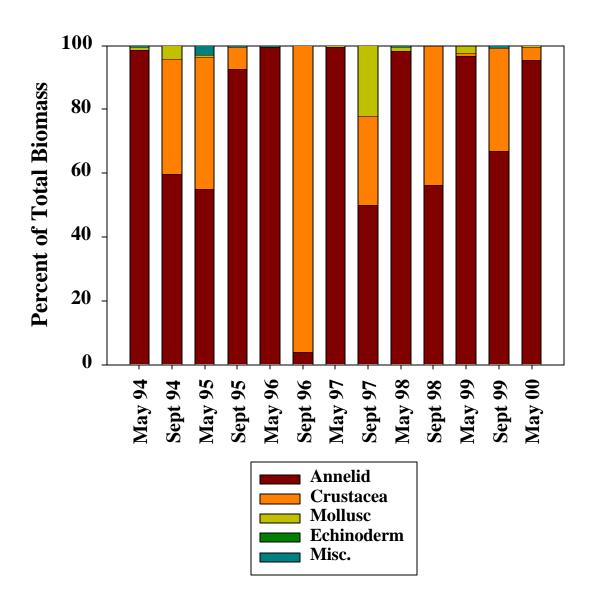


Figure 2-16. MLW Benthos Biomass Composition- North Area.

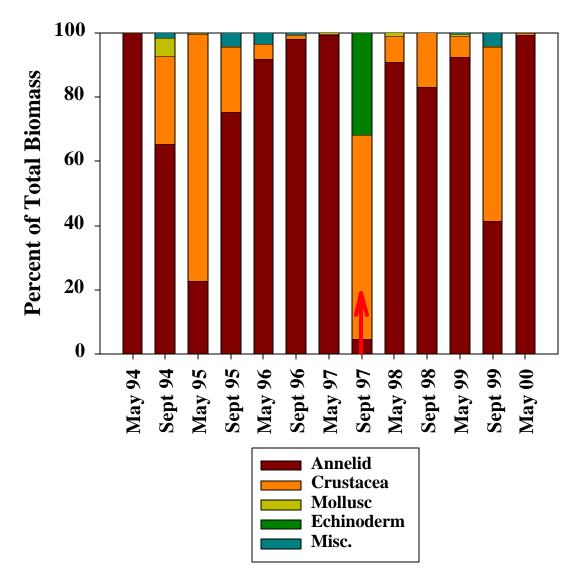


Figure 2-17. MLW-1m Benthos Biomass Composition- South Area. Arrow indicates when nourishment occurred.

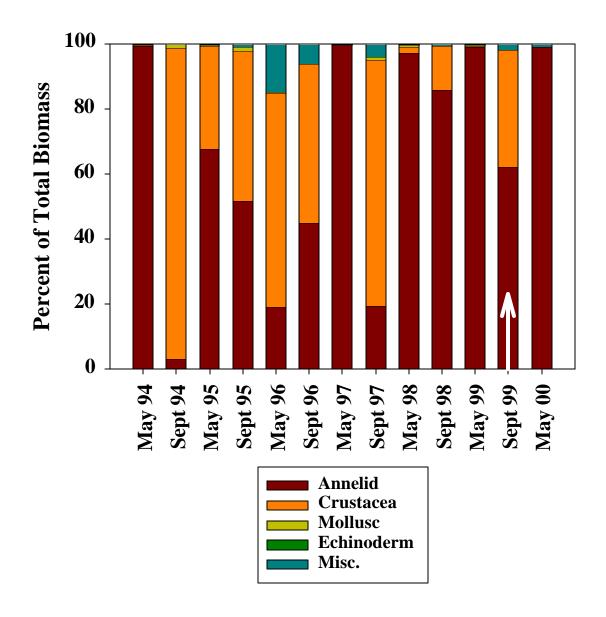


Figure 2-18. MLW-1m Benthos Biomass Composition- Middle Area. Arrow indicates when nourishment occurred.

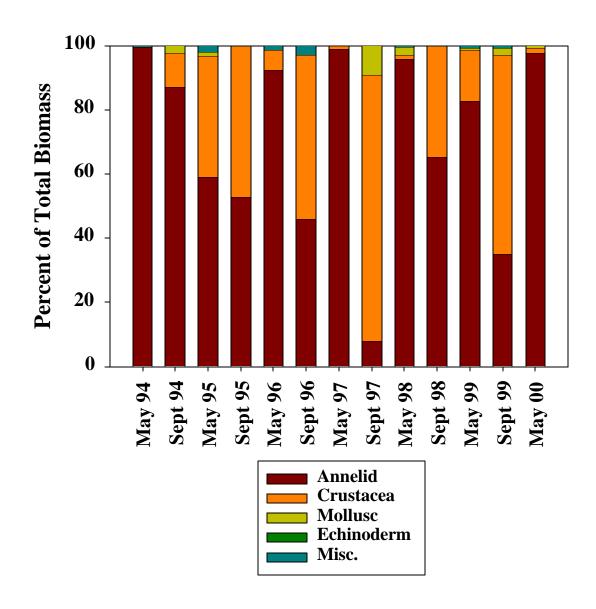


Figure 2-19. MLW-1m Benthos Biomass Composition- North Area.

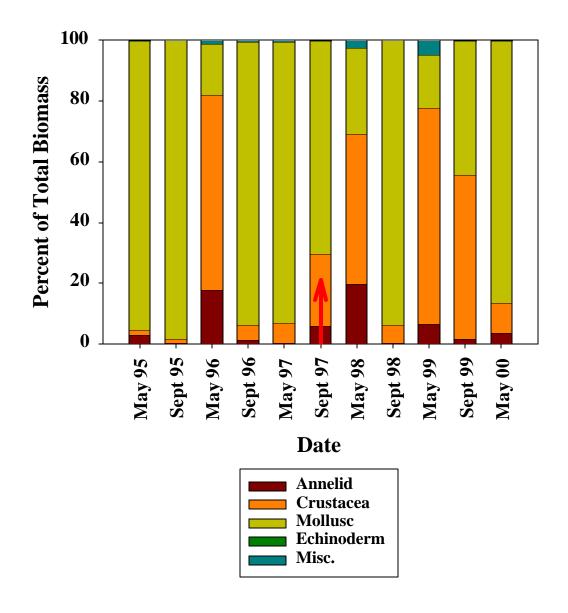


Figure 2-20. Nearshore Benthos Biomass Composition- South Area. Arrow indicates when nourishment occurred.

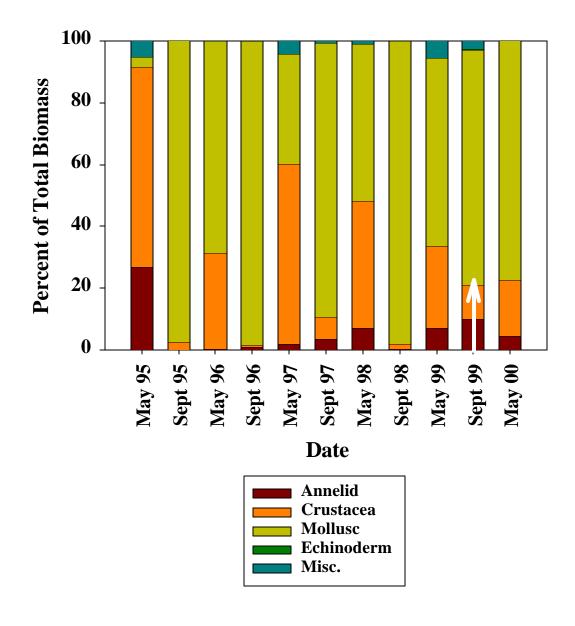


Figure 2-21. Nearshore Benthos Biomass Composition Middle Area. Arrow indicates when nourishment occurred.

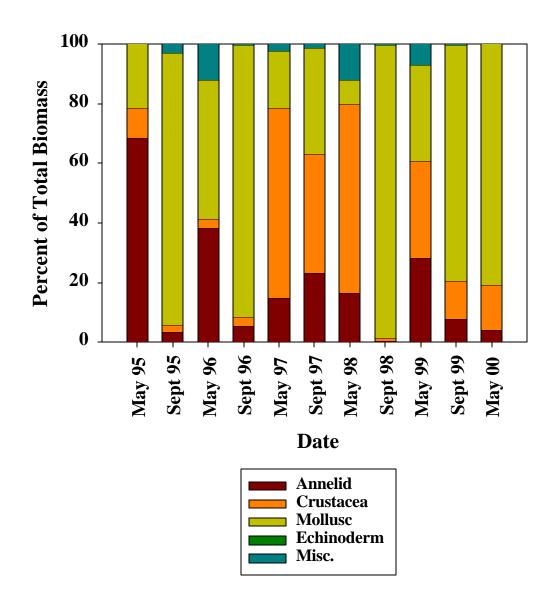
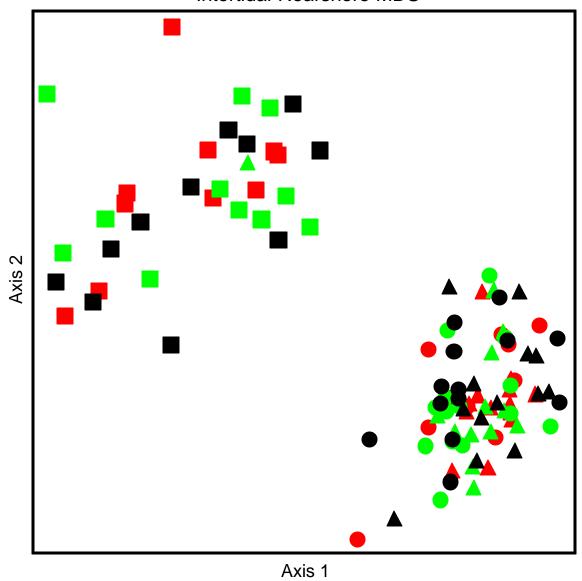


Figure 2-22. Nearshore Benthos Biomass Composition- North Area.

## Intertidal-Nearshore MDS



**Figure 2-23. Intertidal-Nearshore Infaunal NMDS Results.** Black = South Area, Red = Middle Area, Green = North Area; Triangle = MLW, Circle = MLW-1m. Square = Nearshore. Stress = 0.13.

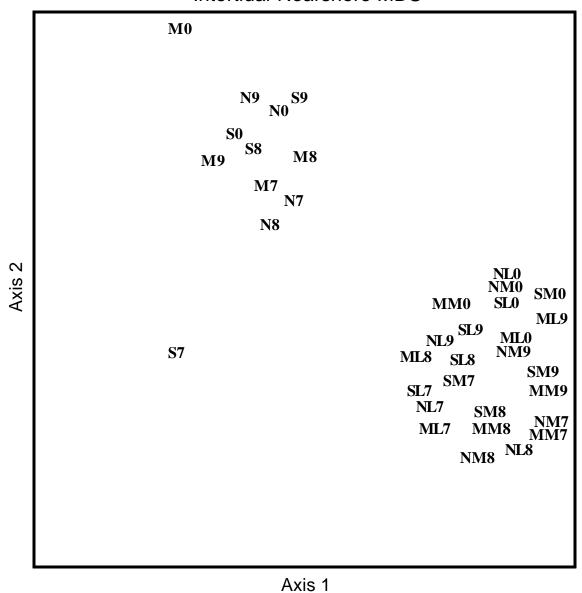
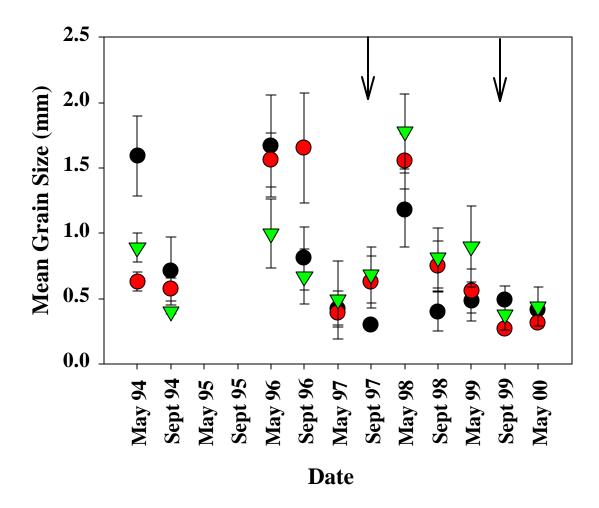


Figure 2-24. NMDS Results from Intertidal-Nearshore Samples During and

Immediately After Nourishment. Nearshore Data: S= South, M= Middle. N=North; 7=Sept 1997, 8=May 1998. 9 = Sept. 1999, 0=May 2000. Intertidal Data: S = South, 1<sup>st</sup> M = Middle, N= North, 2<sup>nd</sup> M= MLW, L= MLW-1m: 7=Sept 1997, 8=May 1998. 9 = Sept. 1999, 0=May 2000. Stress = 0.13.



**Figure 2-25.** Mean Low Water Mean Grain Size (mm+SE) by Date. Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Arrows indicate when nourishment occurred (1<sup>st</sup> = South, 2<sup>nd</sup> = Middle).

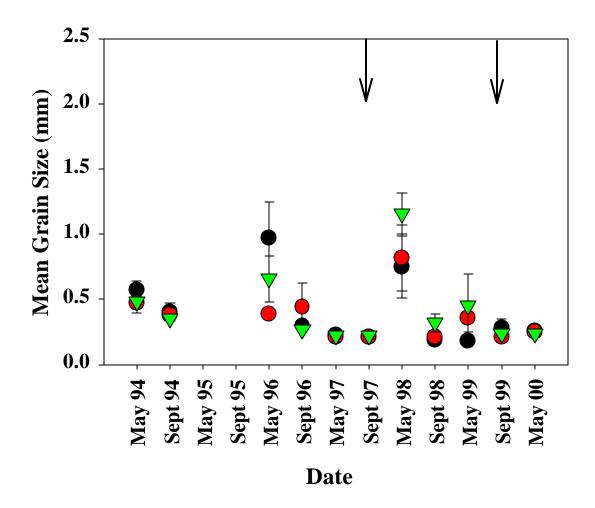
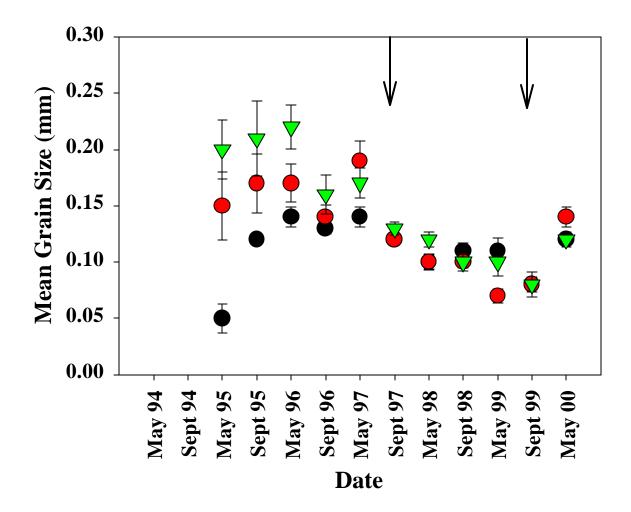


Figure 2-26. Mean Low Water –1m Mean Grain Size (mm $\pm$ SE) by Date. Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Arrows indicate when nourishment occurred ( $1^{st}$  = South,  $2^{nd}$  = Middle).



**Figure 2-27.** Nearshore Mean Grain Size (mm+SE) by Date. Black Circles = South Area, Red Circles = Middle Area, Green Triangles = North Area; Arrows indicate when nourishment occurred (1<sup>st</sup> = South, 2<sup>nd</sup> = Middle).

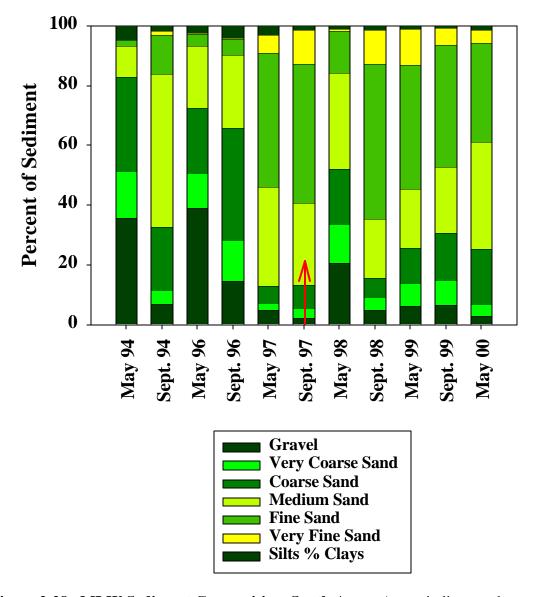


Figure 2-28. MLW Sediment Composition- South Area. Arrow indicates when nourishment occurred.

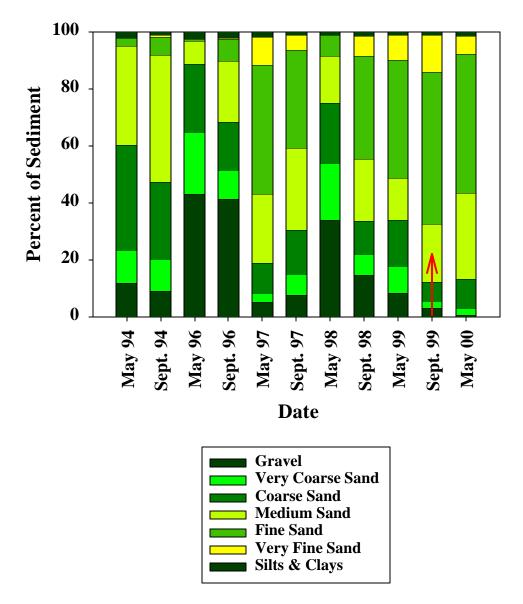


Figure 2-29. MLW Sediment Composition- Middle Area. Arrow indicates when nourishment occurred.

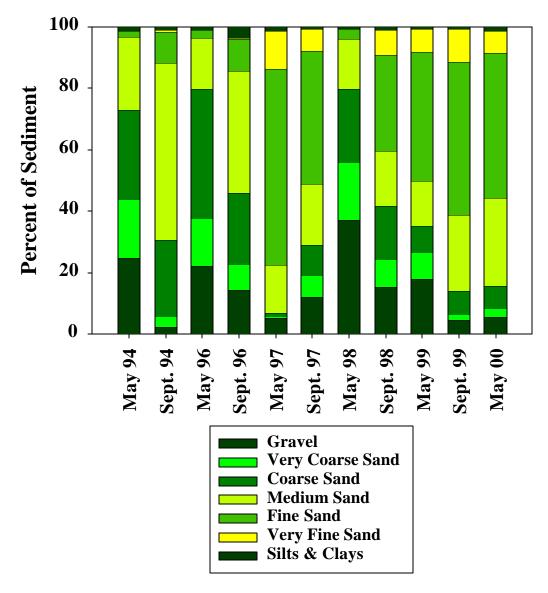


Figure 2-30. MLW Sediment Composition North Area.

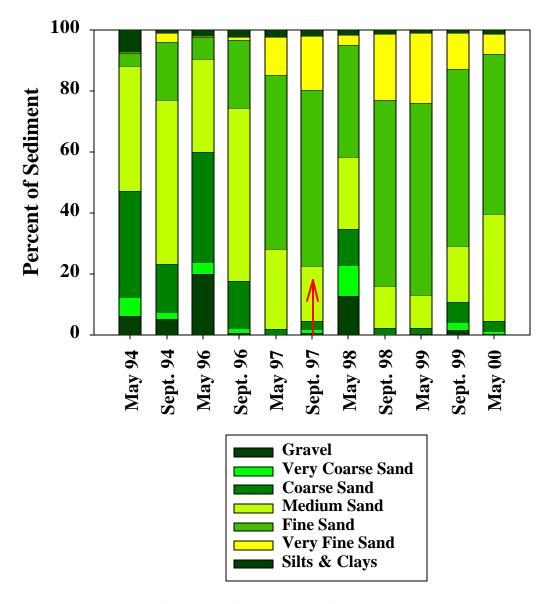


Figure 2-31. MLW-1m Sediment Composition- South Area. Arrow indicates when nourishment occurred.

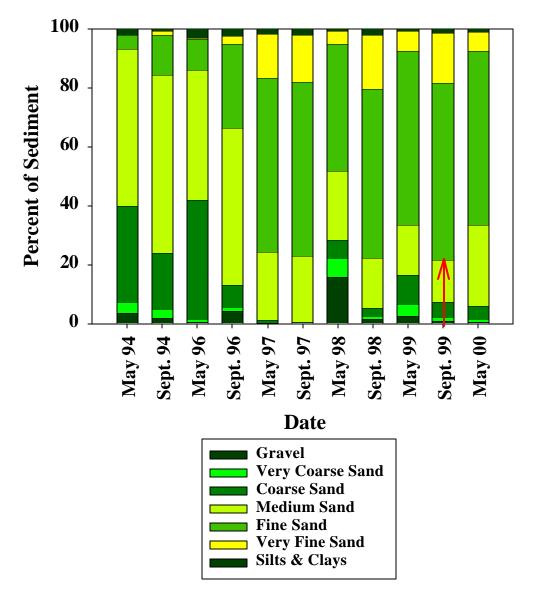


Figure 2-32. MLW-1m Sediment Composition- Middle Area. Arrow indicates when nourishment occurred.

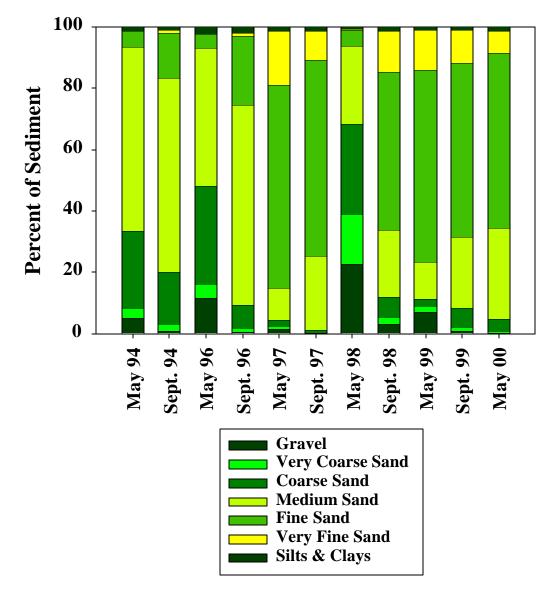


Figure 2-33. MLW-1m Sediment Composition- North Area.

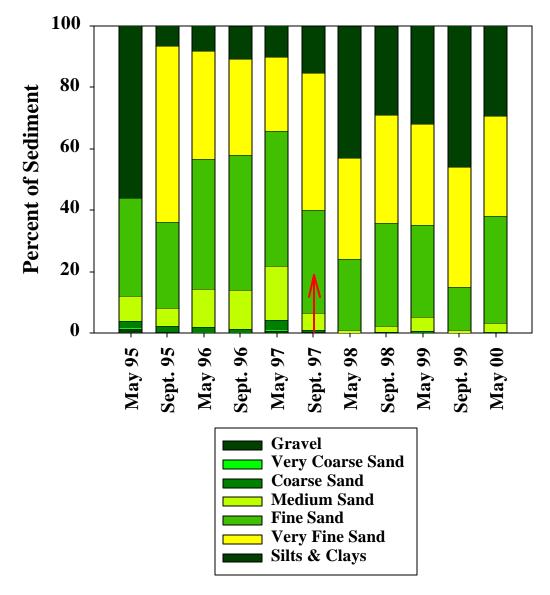


Figure 2-34. Nearshore Sediment Composition- South Area. Arrow indicates when nourishment occurred.

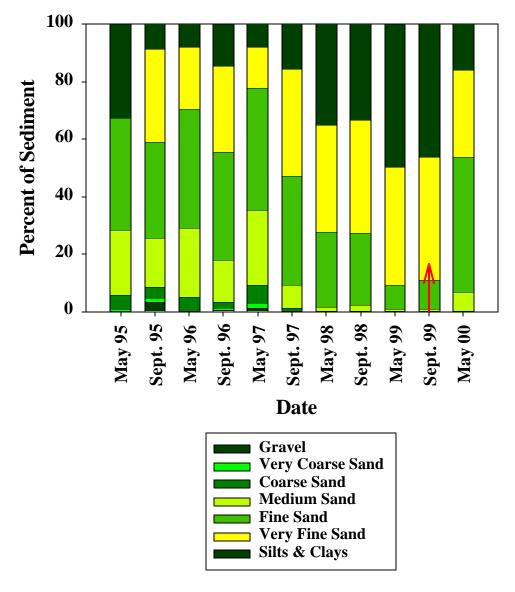


Figure 2-35. Nearshore Sediment Composition-Middle Area. Arrow indicates when nourishment occurred.

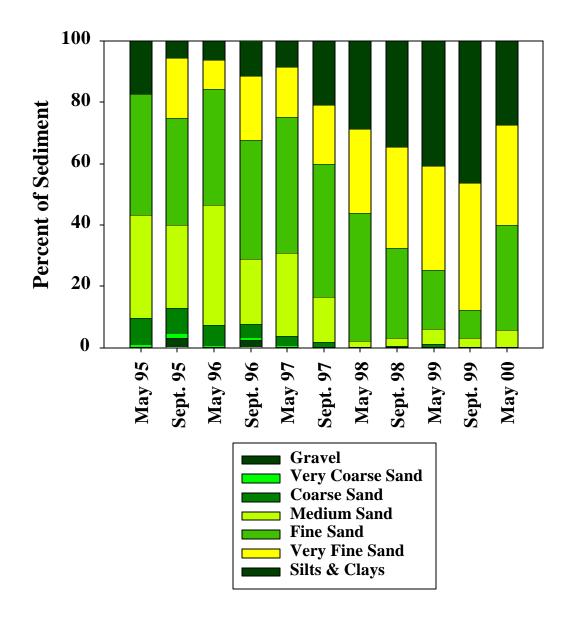
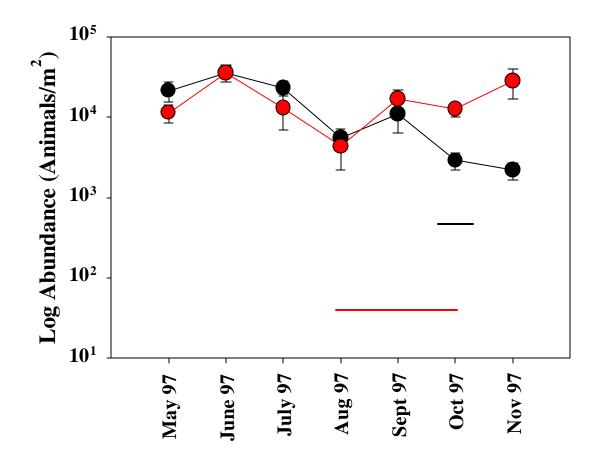
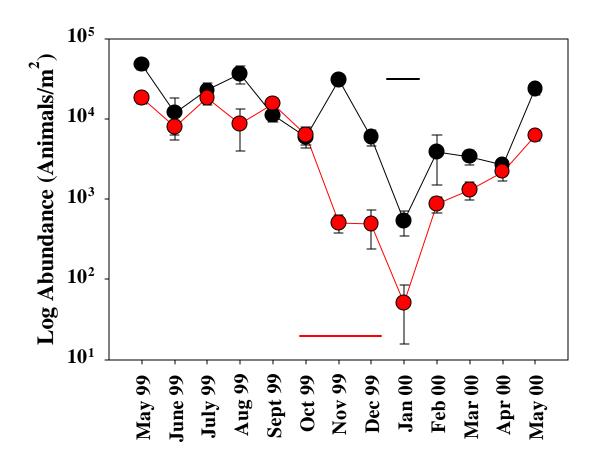


Figure 2-36. Nearshore Sediment Composition- North Area.



**Figure 2-37. Monthly Abundance (No. Animals/m<sup>2</sup>+SE) for 1997.** Red Circles = South Area, Black Circles = Middle Area, Red line indicates time during which South Area MLW Stations 1-6 were nourished; Bar indicates a significant (p<0.0167) linear contrast between means.



**Figure 2-38. Monthly Abundance (No. Animals/m²+SE) for 1999.** Red Circles = South Area, Black Circles = Middle Area, Red line indicates time during which Middle Area MLW Stations 21-26 were nourished; Bar indicates a significant (p<0.0167) linear contrast between means.

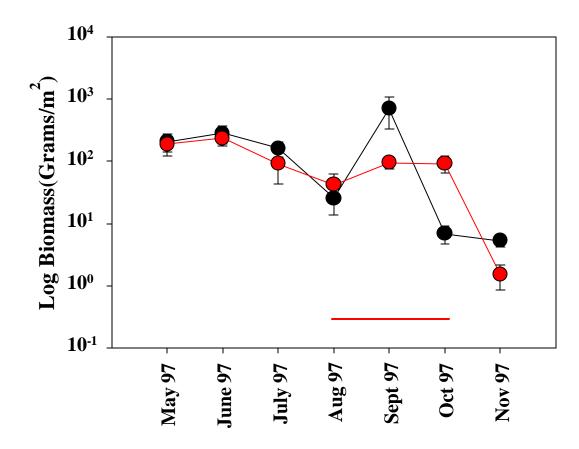


Figure 2-39. Monthly Biomass (Grams/ $m^2\pm$ SE) for 1997. Red Circles = South Area, Black Circles = Middle Area, Red line indicates time during which South Area MLW Stations 1-6 were nourished; Bar indicates a significant (p<0.0167) linear contrast between means.

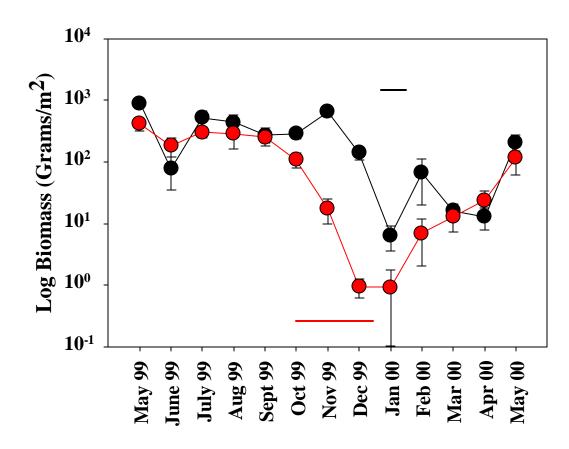
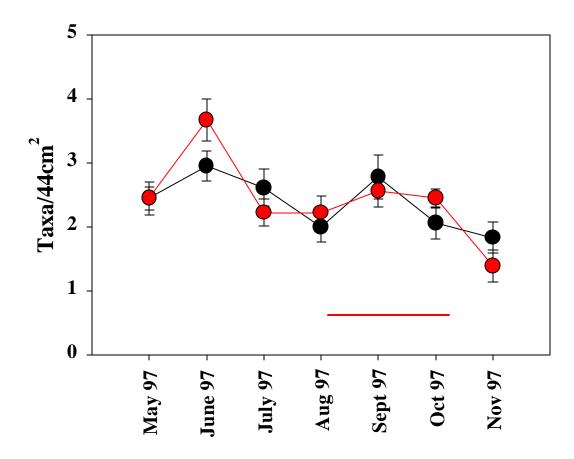
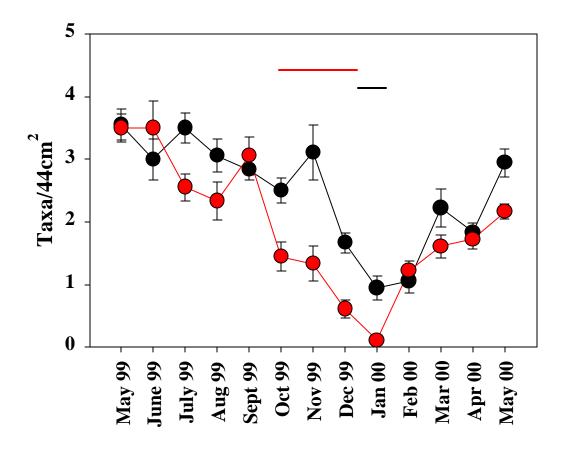


Figure 2-40. Monthly Biomass (Grams/m<sup>2</sup>+SE) for 1999. Red Circles = South Area, Black Circles = Middle Area, Red line indicates time during which Middle Area MLW Stations 21-26 were nourished; Bar indicates a significant (p<0.0167) linear contrast between means.



**Figure 2-41. Monthly Taxa Richness (Taxa/44cm<sup>2</sup>+SE) for 1997.** Red Circles = South Area, Black Circles = Middle Area, Red line indicates time during which South Area MLW Stations 1-6 were nourished; Bar indicates a significant (p<0.0167) linear contrast between means.



**Figure 2-42. Monthly Taxa Richness (Taxa/44cm<sup>2</sup>+SE) for 1999.** Red Circles = South Area, Black Circles = Middle Area, Red line indicates time during which Middle Area MLW Stations 21-26 were nourished; Bar indicates a significant (p<0.0167) linear contrast between means.

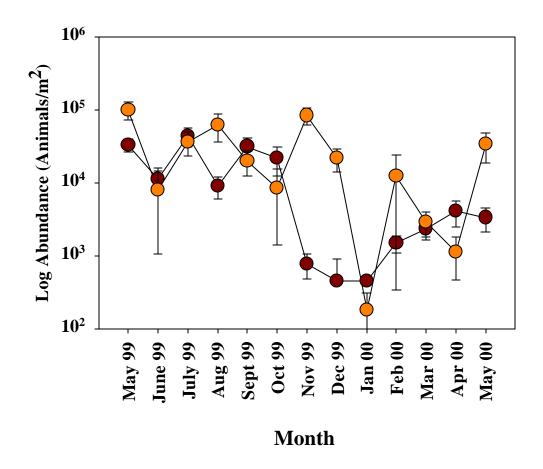


Figure 2-43. Monthly Abundance (Animals/m<sup>2</sup>+SE) of *Scolelepis squamata*: 1999-2000. Orange = South Area (reference), Brown = Middle Area (nourished).

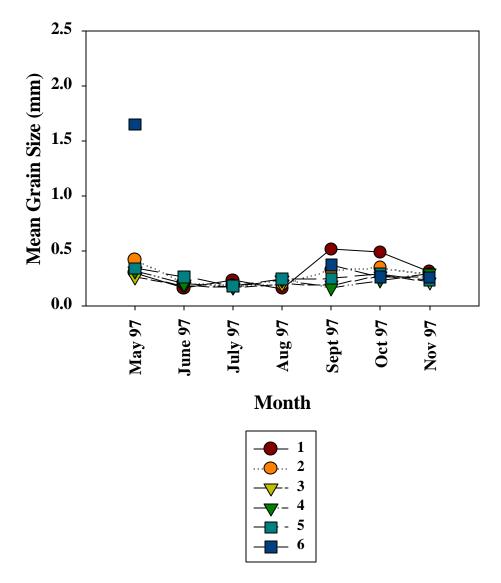


Figure 2-44. Monthly Sediment Mean Grain Size ( $\pm$ SE) for South Area 1997. Numbers = MLW Stations.

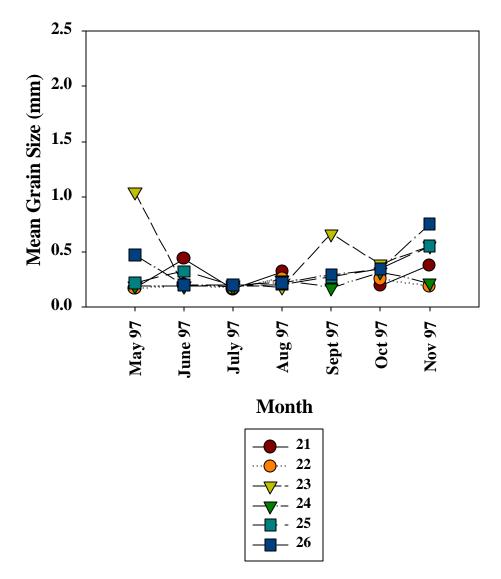


Figure 2-45. Monthly Sediment Mean Grain Size ( $\pm$ SE) for Middle Area 1997. Numbers = MLW Stations.

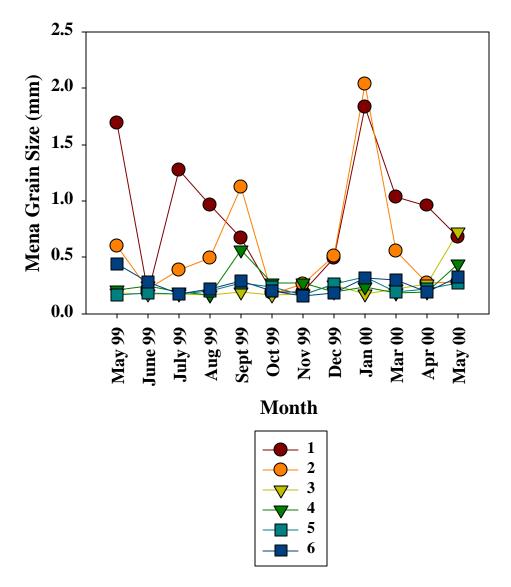


Figure 2-46. Monthly Sediment Mean Grain Size ( $\pm$ SE) for South Area 1999. Numbers = MLW Stations.

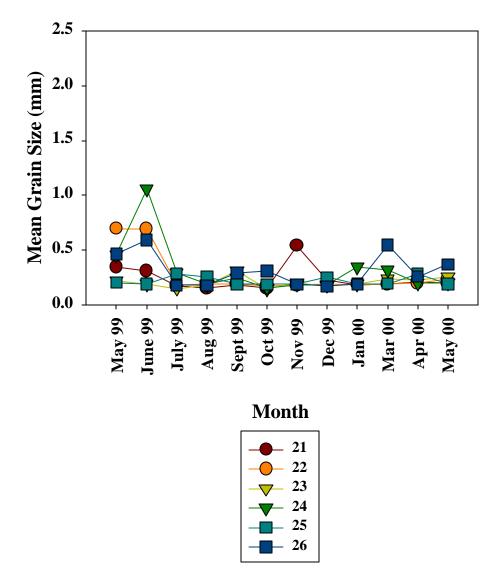
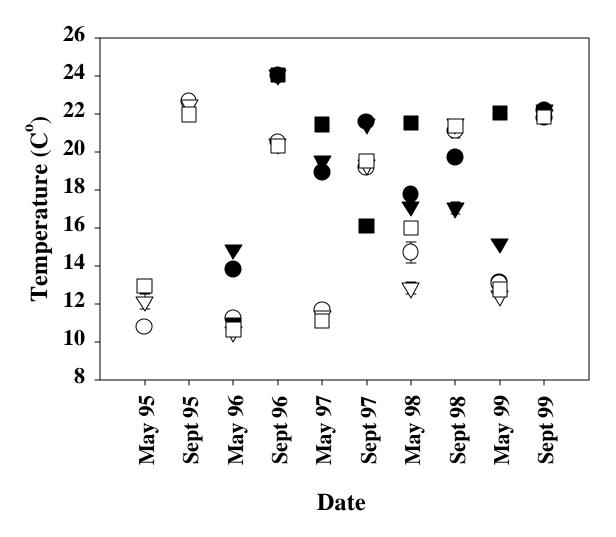
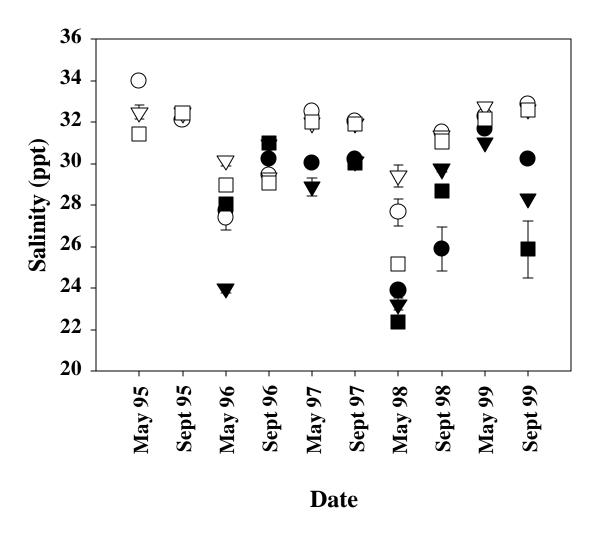


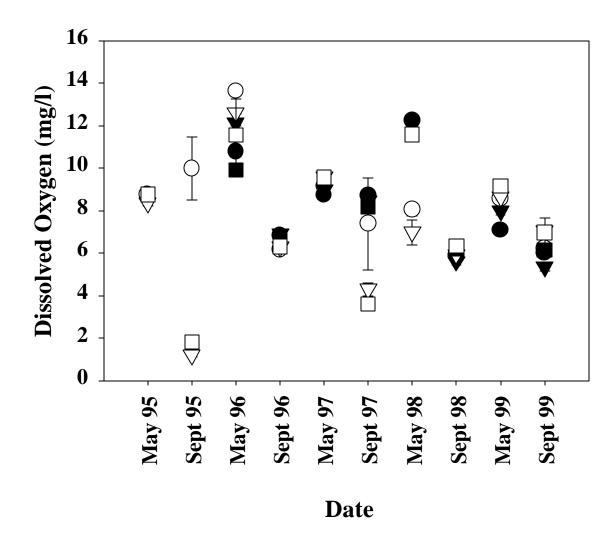
Figure 2-47. Monthly Sediment Mean Grain Size ( $\pm$ SE) for Middle Area 1999. Numbers = MLW Stations.



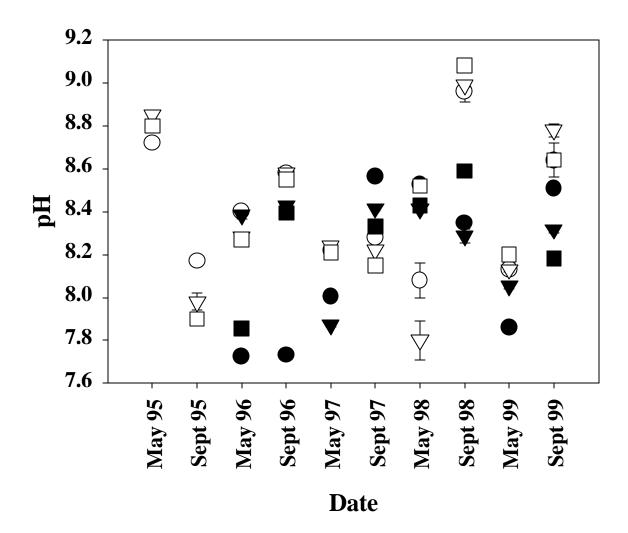
**Figure 2-48. Surfzone and Nearshore Bottom Water Temperature (Mean C<sup>o</sup> +SE).** Filled symbols = Surfzone, Open symbols = Nearshore Bottom water; Circle = South Area, Inverted Triangle = Middle Area, Square = North Area.



**Figure 2-49. Surfzone and Nearshore Bottom Water Salinity (Mean ppt** <u>+</u>**SE).** Filled symbols = Surfzone, Open symbols = Nearshore Bottom water; Circle = South Area, Inverted Triangle = Middle Area, Square = North Area.



**Figure 2-50. Surfzone and Nearshore Bottom Water Dissolved Oxygen Concentrations (Mean mg/l+SE).** Filled symbols = Surfzone, Open symbols = Nearshore Bottom water; Circle = South Area, Inverted Triangle = Middle Area, Square = North Area.



**Figure 2-51. Surfzone and Nearshore Bottom Water pH (Mean+SE).** Filled symbols = Surfzone, Open symbols = Nearshore Bottom water; Circle = South Area, Inverted Triangle = Middle Area, Square = North Area.